

## Claims

- [c1] A round tapered tubular shaft to be used to form the body of a billiard cue or a portion of a billiard cue. Said shaft has a continuously increasing wall thickness from a low at the smaller front end to a high at the larger back end. Said shaft is made of a composite material of fibers in a binder such as carbon fiber/epoxy.
- [c2] The shaft of claim 1 wherein the interior of the tapered tubular shaft is filled with a resilient plastic foam.
- [c3] The shaft of claim 1 wherein it is used to form the front half of a billiard cue.
- [c4] The shaft of claim 3 wherein the wall thickness at the front end is between .010" and .020" and increases to at least .050" at the back end.
- [c5] The shaft of claim 3 wherein the wall thickness at the front end is between .020" and .030" and increases to at least .070" at the back end.
- [c6] The shaft of claim 3 wherein the wall thickness at the front end is between .030" and .040" and increases to at least .090" at the back end.
- [c7] The shaft of claim 1 wherein it is used to form the back half of a billiard cue.
- [c8] The shaft of claim 7 wherein the wall thickness at the front end is between .050" and .070" and increases to at least .100" at the back end.
- [c9] The shaft of claim 7 wherein the wall thickness at the front end is between .070" and .090" and increases to at least .120" at the back end.
- [c10] The shaft of claim 7 wherein the wall thickness at the front end is

between .090" and .0110" and increases to at least .140" at the back end.

- [c11] A round tapered shaft to be used to form the body of a billiard cue or a portion of a billiard cue. Said shaft includes an outer skin made of a composite material of fibers in a binder such as carbon fiber/epoxy and an inner core of structural rigid plastic foam. Said outer skin has a continuously increasing wall thickness from a low at the smaller front end to a high at the larger back end.
- [c12] The shaft of claim 11 wherein it is used to form the front half of a billiard cue.
- [c13] The shaft of claim 12 wherein the wall thickness at the front end is between .010" and .020" and increases to at least .050" at the back end.
- [c14] The shaft of claim 12 wherein the wall thickness at the front end is between .020" and .030" and increases to at least .070" at the back end.
- [c15] The shaft of claim 12 wherein the wall thickness at the front end is between .030" and .040" and increases to at least .090" at the back end.
- [c16] The shaft of claim 11 wherein it is used to form the back half of a billiard cue.
- [c17] The shaft of claim 16 wherein the wall thickness at the front end is between .050" and .070" and increases to at least .100" at the back end.
- [c18] The shaft of claim 16 wherein the wall thickness at the front end is between .070" and .090" and increases to at least .120" at the back end.
- [c19] The shaft of claim 16 wherein the wall thickness at the front end is between .090" and .110" and increases to at least .140" at the back end.